

This report highlights updated information regarding the Hood Canal Bridge Project. Additional information may be obtained on the Hood Canal Bridge Project web site at:

www.hoodcanalbridge.com

Eric Soderquist  
Project Director  
(360) 704-6305 soderqe@wsdot.wa.gov

Becky Hixson  
Communication Manager  
(360) 704-6308 hixsonb@wsdot.wa.gov

Where to build

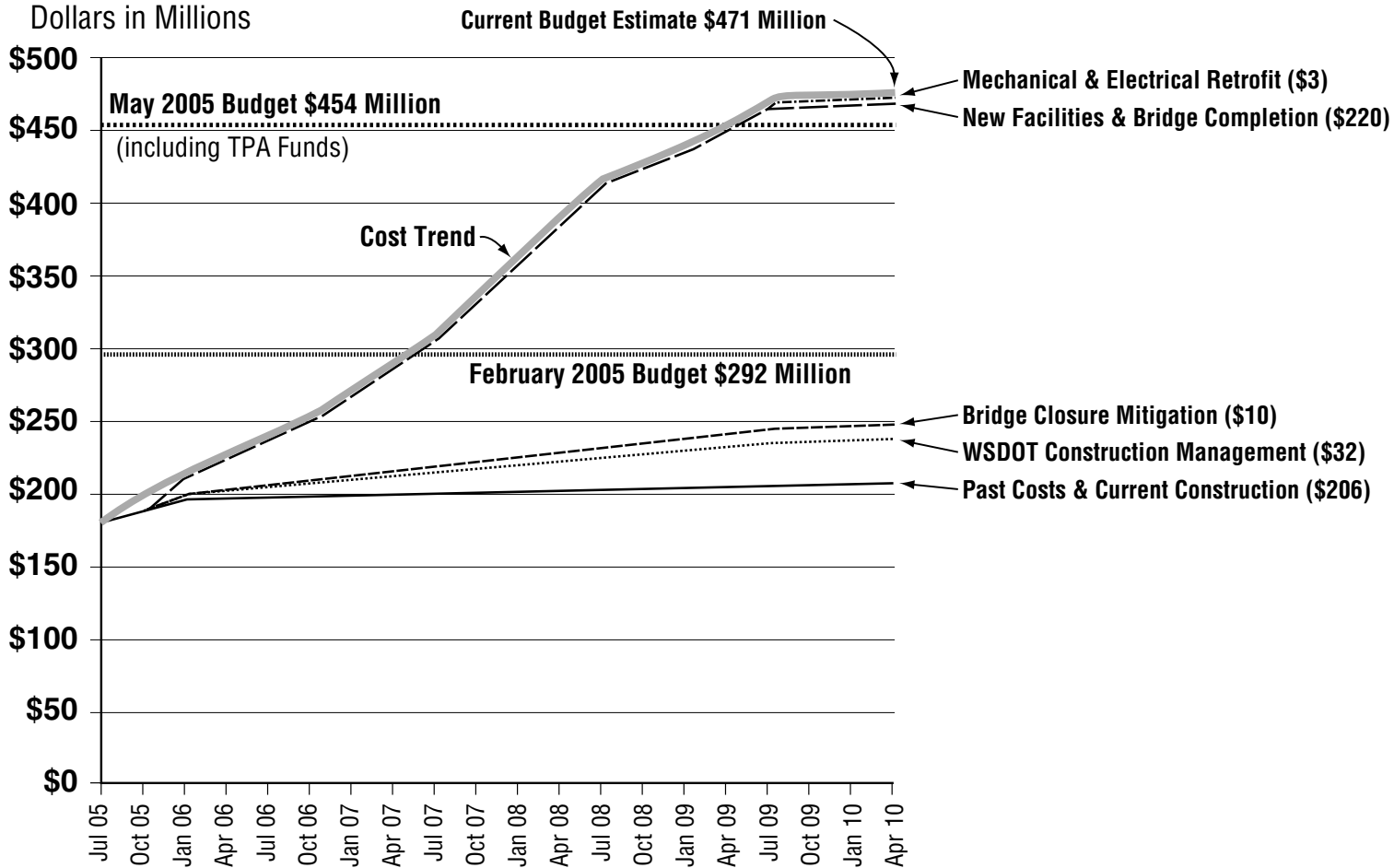
In the long-term it would be most cost effective for the state to own and operate a large graving dock facility to mass-produce pontoons and anchors for the four floating bridges in WSDOT's inventory. The main reason for building the graving dock in Port Angeles was to create a state-owned facility ideally suited for years of floating bridge construction for both Hood Canal Bridge and the SR 520 Evergreen Point Floating Bridge. When construction on the Port Angeles graving dock stopped in December 2004, there was a sense of urgency to find a site to build the Hood Canal Bridge pontoons. WSDOT executives decided that finding the fastest, most predictable methods for completing work needed to take priority over providing a new graving dock suitable for multiple bridge projects. In early 2005, WSDOT conducted a review of possible pontoon construction sites around Puget Sound and chose to pursue the remaining work in existing, privately owned facilities.

Using existing commercially operated facilities for pontoon construction will deliver a new east half in 2009 without the risks associated with permitting and constructing a new graving dock facility, but WSDOT will pay millions in lease costs instead of making an investment in a state-owned graving dock.

Kiewit-General has worked side-by-side with WSDOT since March 2005 to develop a creative plan for using existing facilities to construct, assemble and outfit pontoons for the project. A commercial graving dock in Tacoma will be used to construct pontoons in four cycles. The massive draw-section of the bridge will be assembled at a shipyard in Seattle. Commercial piers around the sound will be used to the elevated roadway sections on the pontoons.

Hood Canal Bridge Spending Forecast

Dollars in Millions



Washington State Department of Transportation

Going Forward Budget Folio

October 2005

Hood Canal Bridge Retrofit and East-half Replacement Project

The Hood Canal Bridge is an economic lifeline for the people and businesses of the Olympic Peninsula and a gateway for visitors coming to experience the wonders of the region.

Going Forward

The SR 104 Hood Canal Bridge's extreme makeover is moving forward to complete the next major milestone – replacing the east half. Every section of the bridge, from the east end to the west, will be improved, upgraded or replaced when the project is complete. To date, WSDOT installed new approach spans and has nearly completed the west half widening work.

New Direction

Through most of 2005, the Hood Canal Bridge Team pursued new sites for pontoon and anchor construction and engaged in contract renegotiations with Kiewit-General (K-G) (see sidebar). Timely project delivery is among WSDOT's highest priorities. The department recognizes that completing this project as soon as possible is critical to spending money wisely. Labor, materials and maintenance costs continue to increase. Those additional costs must be incorporated into the budget.

Budget History: June 2003 to February 2005

When the Hood Canal Bridge contract was awarded in June 2003, the project budget, which included the cost of building pontoons and anchors at the graving dock in Port Angeles, was \$275 million. Since that time, budget adjustments were made as new needs arose – anchor cable replacement; inflation in cost of goods and services; and, archaeological efforts (see Budget History on page 2). Including these additional work items, the February 2005 project budget was \$292 million.

June 2003	\$275,082,000
Budget adjusted to contract award amount.	
May 2004	\$284,214,000
Budget increased to include archaeological work at Port Angeles, acquisition of additional property and purchase of additional materials.	
Nov. 2004	\$285,234,000
Budget increased due to additional archaeological work and added lease costs.	
Feb. 2005	\$291,540,000
Budget increased to immediately replace east-half anchor cables.	

Staying with the Current Contractor

In January 2005, WSDOT assembled an expert review panel to evaluate the project and advise the SR 104 Hood Canal Bridge project team on the course of action for contracting the work. The panel included national experts in construction, program management, contract administration and marine construction.

Recommendations from the expert review panel echoed the sentiments of WSDOT executives: the Hood Canal Bridge Team must identify a course of action to replace the aging east half of the Hood Canal Bridge, at a predictable cost, as soon as possible. The panel also recommended moving quickly ahead with the current contractor, Kiewit-General. The project team worked with the contractor to find new sites for constructing, assembling and outfitting pontoons. Once locations were selected, work turned to negotiating contract changes with an eye toward minimizing expenses and time associated with re-packaging contract documents; ensuring the best use of material already acquired for the project; and, avoiding any further financial loss to sub-contractors and suppliers ready to deliver the work.

In July 2005, soon after resolving past cost issues, WSDOT and K-G began negotiating the cost of completing the project. WSDOT and K-G executives reached agreement on a Target Price for the remaining project work in September 2005. A change order detailing the upcoming construction work was signed in October. The Hood Canal Bridge Team is now updating and finalizing the budget based on the actual construction contract.

Budget History: February 2005 to October 2005

The October 2005 estimate to complete the project is \$179 million more than the February 2005 budget. Moving to different locations changes the costs associated with completing the job. Existing facilities around the Puget Sound offer the best production schedule and a lower cost than building a new graving dock, but necessitate budget increases. Expenses include costs associated with stopping the work, re-pricing the contract to use other facilities, parts storage and escalation of costs for labor, equipment and materials. Additional cost increases may come from a variety of risks inherent to the project: Port Angeles site closure, future judgments, continued oversight of Port Angeles facility, excessive material cost escalation and bridge maintenance needs. The full extent of the additional costs could not be quantified until negotiations with K-G were completed. To ensure enough funding for project completion and cover anticipated cost increases, \$162 million was included in the 2005 Transportation Partnership Account. In May 2005, the project budget was \$454 million.

Since WSDOT and K-G agreed to a contract change order in October, WSDOT can now answer the most pressing questions concerning project cost. The overall project budget is now estimated to be \$471 million, however, the new contract provides a shared savings element that encourages the contractor to seek efficiencies and reduce costs (see sidebar on page 3). The change order costs are \$17 million higher than the 2005 Transportation budget, and that amount is being incorporated in the WSDOT budget proposal for the 2006 legislative session.

The change in budget is categorized into five major cost areas: past and current construction; WSDOT construction management; closure mitigation; new facilities and bridge completion; and, mechanical and electrical retrofitting.

1) Past and Current Construction

This cost area includes Port Angeles work (see pie chart), completed work – west-half widening and approach span replacement, anchor cable replacement, and work in progress.

**Port Angeles.** Expenses include construction costs, settlements, engineering and design, landscaping, materials, land acquisition and leases, anchor cable replacement, archaeological work, and WSDOT contract management.

Bridge Site Work.

The new east and west approach spans were rolled into place in August. In addition, widening on both the south side the north side of the west half is almost finished.

Work In Progress.

Work continues on archaeology, new designs for pontoon and anchor construction, material inventory, closure mitigation design work, and Port Angeles cost analysis. WSDOT is auditing the contractor's work and anticipates adjustments.

2) Going Forward WSDOT Construction Management

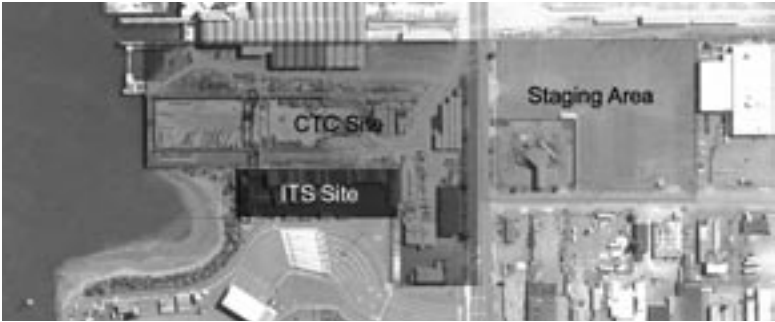
Cost increases resulted from additional WSDOT staff hours during contract renegotiations, additional time needed to coordinate and supervise construction at multiple sites over the lifetime of the project and the need to employ staff over a longer period of time.

Hood Canal Bridge Project: Change in Budget

	February 2005 Budget	October 2005 Budget	Budget Change
1) Past & Current Construction			
Port Angeles	58,500,000	86,823,000	28,323,000
Bridge Site Work	42,350,000	45,310,000	2,960,000
Work In Progress			
Remaining Archaeology Work	—	2,150,000	2,150,000
Project Design & Engineering	7,800,000	8,850,000	1,050,000
Major Materials for Future Work	41,200,000	61,440,000	20,240,000
Bridge Site Construction Management	19,930,000	9,450,000	(10,480,000)
Anticipated Adjustments	—	(10,950,000)	(10,950,000)
Mitigation Design & Property Acquisition	2,990,000	2,990,000	—
Subtotal of Past & Current Construction	172,770,000	206,063,000	33,293,000
2) Going Forward WSDOT Construction Management			
Contract Management	—	27,486,000	27,486,000
Project Design and Engineering	—	4,550,000	4,550,000
Subtotal of WSDOT Construction Management	—	32,036,000	32,036,000
3) Bridge Closure Mitigation			
Subtotal Bridge Closure Mitigation	8,760,000	9,644,000	884,000
4) New Facilities & Bridge Completion			
Pontoon Construction	49,800,000	109,100,000	59,300,000
Pontoon Outfitting & Testing	14,700,000	48,500,000	33,800,000
Pontoon Float In	21,000,000	23,000,000	2,000,000
Anchor Construction & Installation	15,000,000	39,900,000	24,900,000
Construction Contingencies	6,460,000	—	(6,460,000)
Subtotal New Facilities & Bridge Completion	106,960,000	220,500,000	113,540,000
5) Mechanical & Electrical Retrofitting			
Subtotal of Mechanical & Electrical Retrofitting	3,050,000	2,725,000	(325,000)
TOTAL PROJECT	\$291,540,000	\$470,968,000	\$179,428,000



Pontoon and anchor construction site, Port Angeles



Concrete Technologies in Tacoma. One of the future construction sites.

3) Bridge Closure Mitigation

Getting ready for the May-June 2009 Hood Canal Bridge closures requires extensive planning, preparation and effort. Starting in 2006, WSDOT will focus on mitigation planning. In 2008, outreach efforts will begin to provide advance notification, help drivers find alternate travel options, efficiently put the mitigation plan in place and find effective ways to quickly update drivers when the bridge opens.

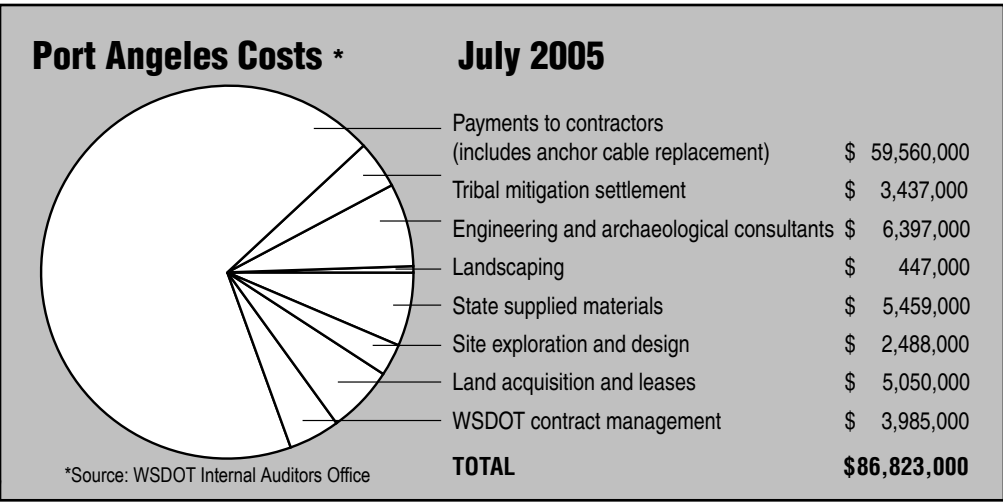
4) New Facilities and Bridge Completion

This cost area includes the costs of pontoon construction, outfitting and testing, float-in, and anchor construction and installation. The current construction schedule includes a January 2006 notice to proceed, 2009 float-in, and final elements completed by 2010. Budget and timeline opportunities and challenges exist due to moving construction operations from Port Angeles to existing Puget Sound facilities (see Where to Build on page 4).

**Pontoon Construction, Outfitting and Testing, Float-in.** Assurance of cost and schedule is one of the most important benefits of using existing facilities. Other opportunities are evident in the areas of availability of skilled labor, reduced environmental risks, material transportation costs, efficiencies gained from using established waterfront facilities specializing in marine construction and better availability for other resources.

The useable construction area at existing facilities presents challenges – it is approximately five times smaller than the proposed Port Angeles graving dock. Work process inefficiencies include additional cycles of pontoon construction and float-out from the graving dock; decreased return of investment due to modifying and leasing existing facilities; production rate impacts due to site layout; and, additional time needed to coordinate multiple sites.

**Anchor Construction and Installation.** Delays increased costs in materials and labor. In addition, work process inefficiencies will result from building anchors in a smaller area than that available in Port Angeles. Once the final anchor construction location is determined, the costs will be finalized. The current construction schedule places anchor construction in 2007 and installation in 2008.



5) Mechanical and Electrical Retrofitting

Costs for storage, warranties of parts, labor, construction materials and maintenance changed when construction timelines were extended.

A New Contract Pricing Strategy

When renegotiations began, WSDOT and Kiewit-General executives agreed to explore a new contract pricing method– Target Pricing. Project schedules were reworked and a new budget developed for building the pontoons and anchors for the project that capitalized on K-G's experience building floating bridges in Washington State; took full advantage of the experience the contractor already has gained in planning the work; and, made the most efficient use of parts and materials that have already been manufactured and purchased for the project. In April 2005, it was agreed that WSDOT and K-G would use a Target Price contracting method.

Target Pricing means that WSDOT and K-G share the responsibility for working through high-risk components of the work, working together to find cost effective solutions during construction and looking for efficiencies to ensure on-time delivery. The new price includes the target cost, fee, and shared savings to reward good performance.